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Biology Standard  
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# Biological Diversity: The World's Riches

## California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

### The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency  
California Natural Resources Agency  
Office of the Secretary of Education  
California State Board of Education  
California Department of Education  
California Integrated Waste Management Board

### Key Leadership for the Education and Environment Initiative:

**Linda Adams**, Secretary, California Environmental Protection Agency  
**Patty Zwarts**, Deputy Secretary for Policy and Legislation, California Environmental Protection Agency  
**Andrea Lewis**, Assistant Secretary for Education and Quality Programs, California Environmental Protection Agency  
**Mark Leary**, Executive Director, California Integrated Waste Management Board  
**Mindy Fox**, Director, Office of Education and the Environment, California Integrated Waste Management Board

### Key Partners:

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### Office of Education and the Environment

1001 I Street • Sacramento, California 95812 • (916) 341-6769  
<http://www.calepa.ca.gov/Education/EEI/>

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## VA #1 Natural Vegetation Key

### Alpine

- 1 Alpine Meadow

### Subalpine

- 2 California Mixed Evergreen  
3 Cedar, Hemlock, Douglas Fir, Spruce  
4 Lodgepole Pine  
5 Mixed Conifer  
6 Ponderosa Pine  
7 Red Fir

### North Coastal Forest

- 8 Redwood

### Mediterranean Scrubland

- 9 Chaparral

### Oak Woodland

- 10 Oak

### Great Basin

- 11 Juniper, Pinyon  
12 Juniper Steppe  
13 Sagebrush

### Central Valley Grassland

- 14 Annual  
15 Mountain  
16 Wet

### Mohave Desert and High Desert

- 17 Desert Shrub

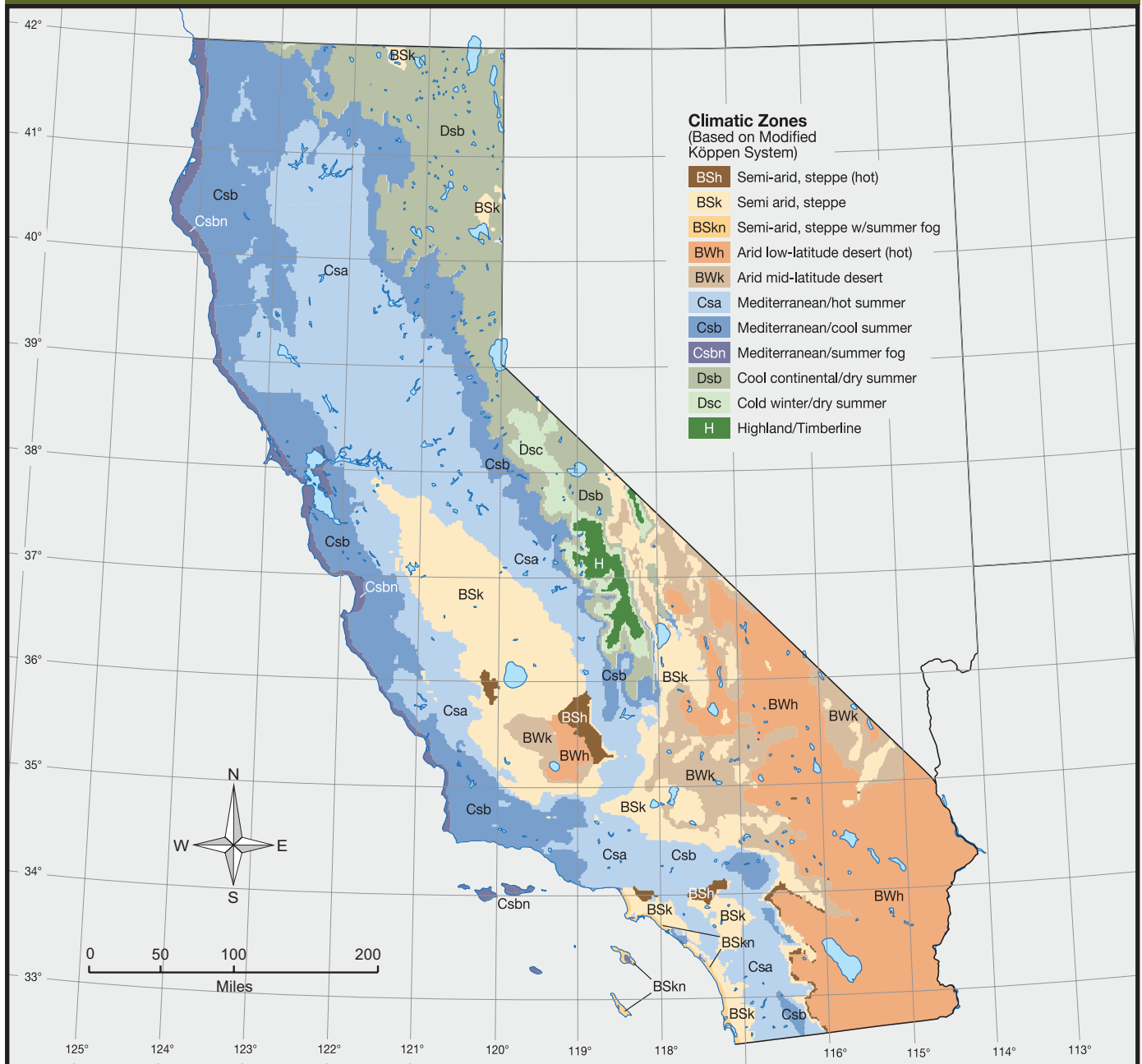
### Colorado Desert and Low Desert

- 18 Desert Shrub, Sparse Vegetation

### Water

- Lakes, Rivers, Streams

## VA #2 California Climatic Zones



## VA #3 California Coastal Salt Marshes



## **VA #4 Biodiversity and Coastal Wetlands**

- 1. What is a coastal wetland?**
- 2. What are some abiotic and biotic characteristics of California's coastal wetlands?**
- 3. What is primary productivity?**
- 4. Why do California's coastal wetlands have high primary productivity?**
- 5. How does primary productivity support species diversity?**
- 6. Why are California's coastal wetlands high in biodiversity?**

## VA #5 Tropical Rainforest



## VA #6 Mojave Desert



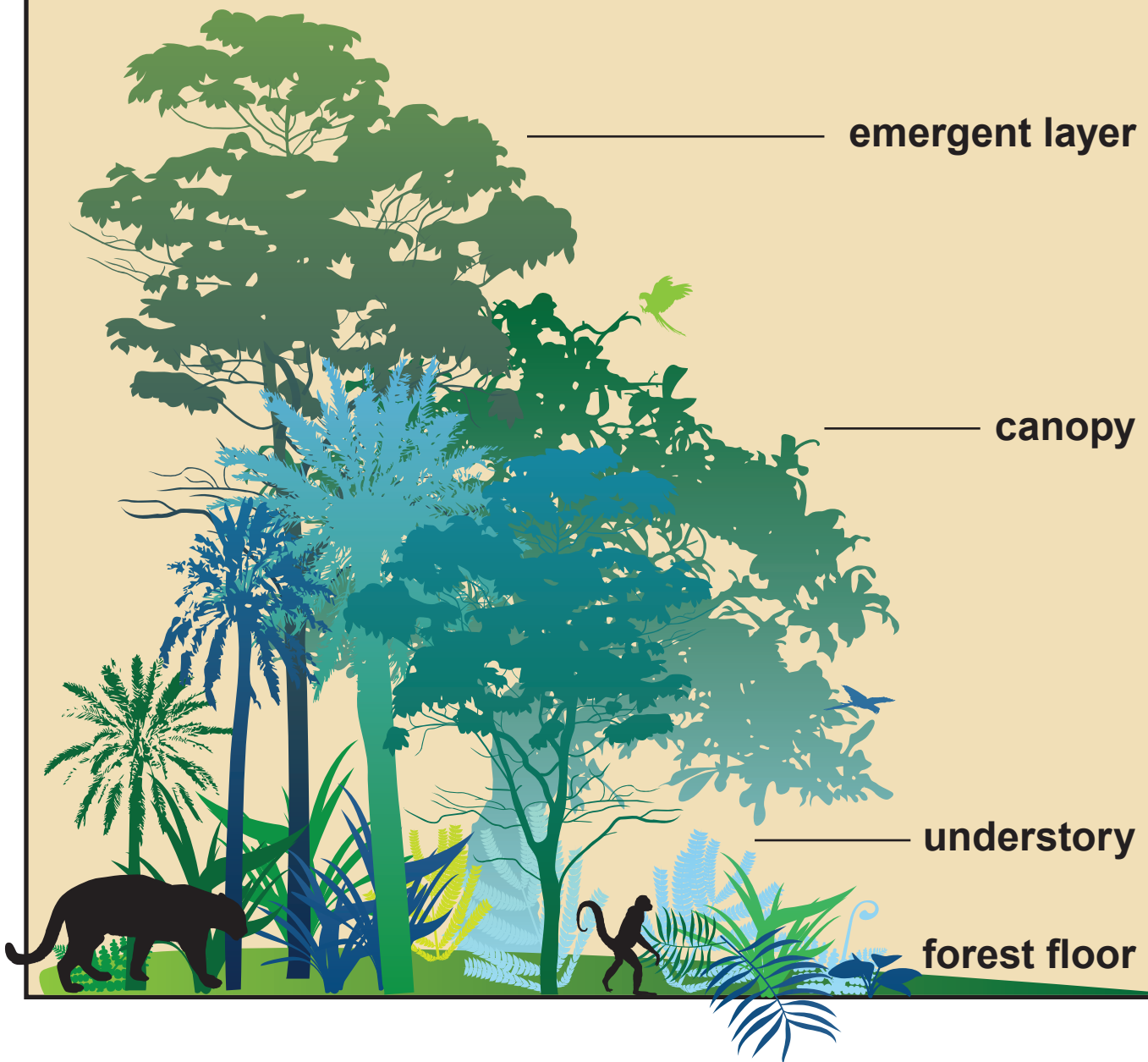
## VA #7 Sonoran Desert



## VA #8 Rainforests



## VA #9 Layers of the Tropical Rainforest



## VA #10 Tank Bromeliad



## VA #11 Events and Practices That Affect Rainforest Ecosystems

Natural Event or Human Practice	Description	Effects on Natural System	Effects on Species Composition	Effects on Local Geographical Extent of Rainforest
Tropical Storm				
Drought				
Farming				
Logging				
Mining				

## VA #12 Capacity to Adjust

Natural Event/ Human Practice	Scope (Local, regional, or national)	Scale Small-scale (tens to hundreds of acres), large- scale (thousands of acres)	Duration Length of time (short-term, ongoing, indefinite)	Byproducts or Effects	Recovery or Capacity to Adjust
Tropical Storm					
Drought					
Farming					
Logging					
Mining					

## VA #13 Kingfishers of Panama

**American Pygmy Kingfisher**  
*Chloroceryle aenea*



**Green Kingfisher**  
*Chloroceryle americana*



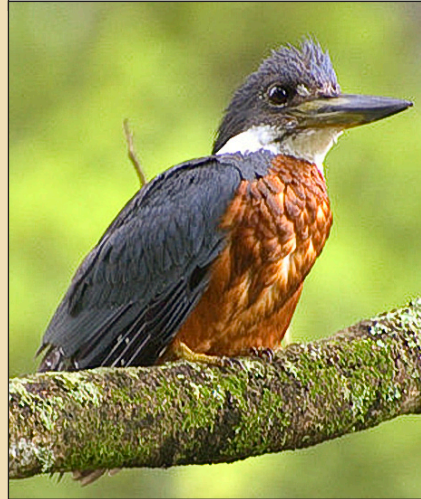
**Green-and-rufous Kingfisher**  
*Chloroceryle inda*



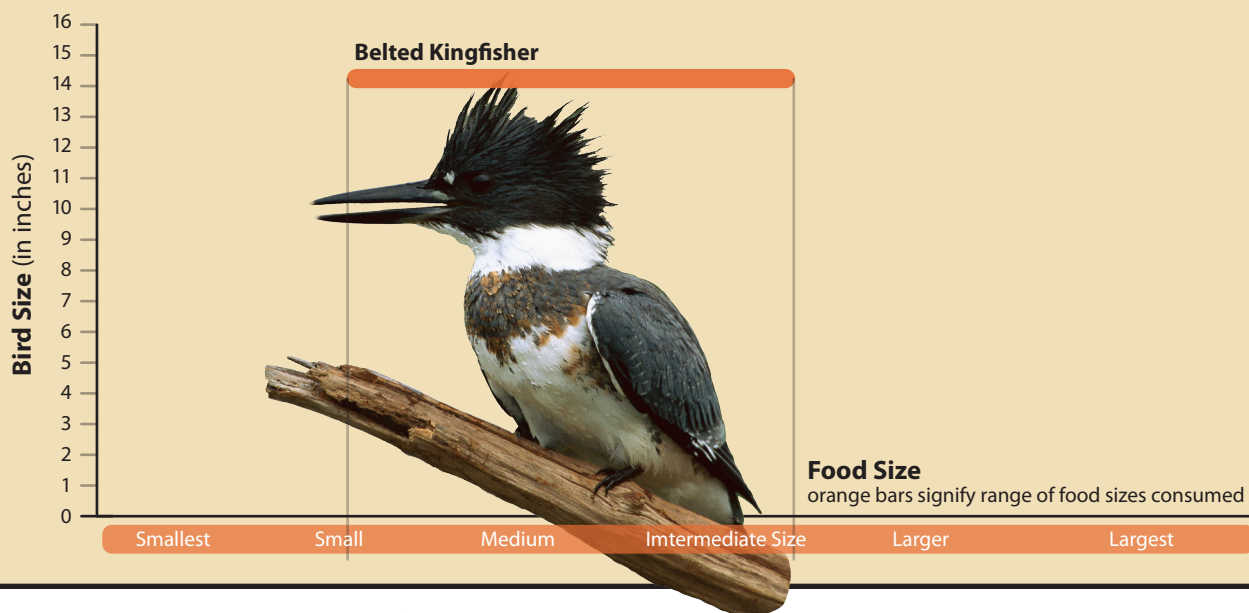
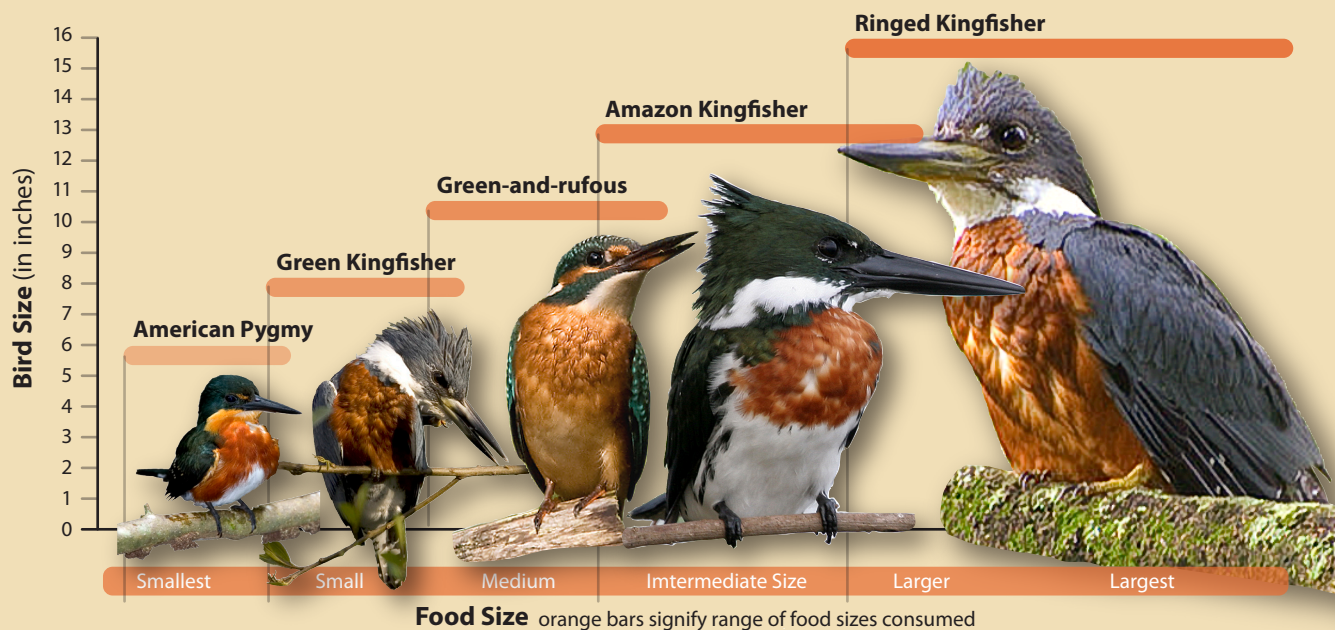
**Amazon Kingfisher**  
*Chloroceryle amazona*



**Ringed Kingfisher**  
*Megaceryle torquata*



## VA #14 Kingfishers' Range of Food Supply Consumed



## VA #15 Belted Kingfisher







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